

Refer to $\odot S$ for Exercises 1–6.

1. Name the center of $\odot S$.

S

2. Name three radii of $\odot S$.

\overline{RS} , \overline{ST} , \overline{SM}

3. Name a diameter.

\overline{RT}

4. Name a chord.

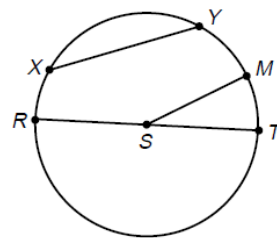
\overline{XY}

5. If $RT = 8.2$, find SM .

4.1

6. Is $\overline{SR} \cong \overline{SM}$? Explain.

both radii



In Exercises 7–10, the radius, diameter, or circumference of a circle is given. Find the other measures to the nearest tenth.

7. $r = 7$, $d = \frac{?}{14}$, $C = \frac{?}{43.96}$

8. $d = 32.4$, $r = \frac{?}{16.2}$, $C = \frac{?}{101.7}$

9. $C = 116.5$, $d = \frac{?}{37.1}$, $r = \frac{?}{18.55}$

10. $r = 12$, $d = \frac{?}{24}$, $C = \frac{?}{75.4}$

Refer to the figure at the right.

1. Name the center of $\odot P$. **P**

2. Name the three radii of the circle.

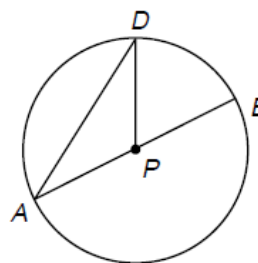
\overline{DP} , \overline{AP} , \overline{PB}

3. Name a diameter.

\overline{AB}

4. Name two chords.

\overline{AD} , \overline{AB}



Find the circumference of a circle with a radius of the given length. Round your answers to the nearest tenth.

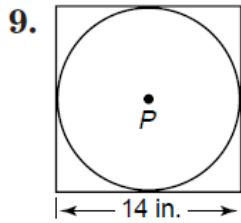
5. 3 cm **18.8**

6. 2 ft **12.6**

7. 34 mm **213.4**

8. 4.5 m **28.3**

Find the exact circumference of each circle.



$$d = 14$$

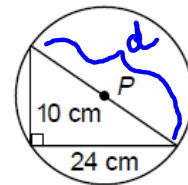
$$C = 14\pi$$

$$10^2 + 24^2 = d^2$$

$$100 + 576 = d^2$$

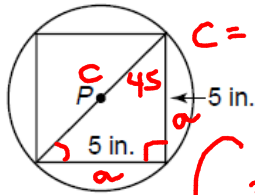
$$676 = d^2$$

$$26 = d$$



$$C = 26\pi$$

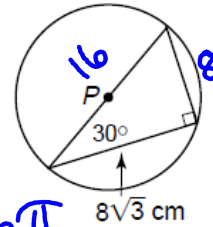
11.



$$C = d = 5\sqrt{2}$$

$$C = 5\sqrt{2}\pi$$

12.

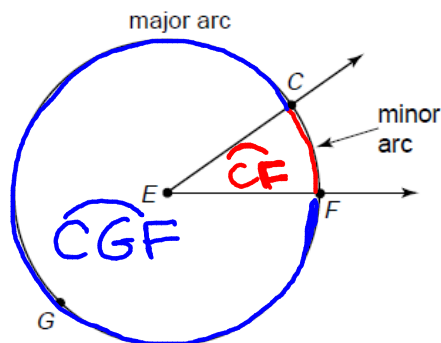


$$C = 16\pi$$

More about circles

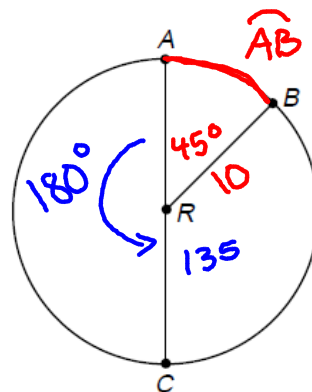
An angle whose vertex is at the center of a circle is called a **central angle**.

A central angle separates a circle into two arcs called a **major arc** and a **minor arc**.



The arcs determined by a diameter are called semicircles and have measures of 180.

The length of an arc =
 $C * (\text{degrees}/360)$



$$C = 10 \cdot 2 \cdot \pi = 20\pi$$

$$\widehat{AB} = \frac{20\pi}{1} \cdot \frac{45}{360} = \frac{20\pi}{8} = \frac{5\pi}{2}$$

Measures versus Lengths

measure refers to degrees $m \widehat{AB}$

length refers to centimeters, inches, etc. $\text{length} = \text{distance}$